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BASE FIRST APPENDECTOMY: A GOOD MODEL FOR TRAINING YOUNG SURGEONS IN LAPAROSCOPIC SURGERY

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Objective: Appendicitis is the most common cause of acute abdomen, and appendectomy is the most frequent surgical procedure performed in the world. We report our initial experience regarding an original technique of laparoscopic appendectomy.
Methods: From March 2011 to February 2013, 58 patients (19 M: 39 F, mean age: 32 years) underwent laparoscopic appendectomy. After a careful exploration of the abdomen, we immediately looked for the base of the appendix at the end of the antimesenteric tenia of the caecum. We then identified the avascular space between the caecum, the appendix and the mesoappendix. We opened the peritoneum with a dissector or with a blunt clamp. Once the window was opened the ATW 35 linear stapler was passed through and the base of the appendix was sectioned. The viscum was now only attached on its mesenter. A retroperitoneal or adhese appendicitis is easier to dissect from the peritoneal attachments. A second white cartridge was then used to cut the meso-appendix. The organ was placed in a bag and extracted possibly through the trocar. Widespread peritoneal irrigation with a saline solution was performed each time. The operation was concluded by leaving a drainage in the pelvis.
Results: We recorded only one intraoperative haemorrhage, one bladder perforation due to trocar insertion and no conversion.
Conclusions: Our goal was to standardize and simplify the laparoscopic approach in order to provide any surgeon, even non-expert ones, with a simple way of removing the viscum especially in complicated situations.

BENCHMARKING OF LAPAROSCOPIC COLORECTAL RESECTIONS: A SINGLE SURGEON'S LEARNING CURVE

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Objective: We retrospectively analyzed the early results in a prospective database of 147 consecutive elective colorectal resections, representing the learning curve of a single surgeon between 2008 and 2012 in our center, with a laparoscopic approach successfully carried out in about 63% of cases.
Methods: Nine variables were considered in univariate and multivariate analyses for the following primary endpoints in the whole cohort: mortality and morbidity rates, overall length of the procedure, overall length of postoperative hospital stay. Secondary endpoints, calculated on 115 cases resected for malignant disease, were length of the surgical specimen and number of retrieved lymph nodes.
Higher BMI and the presence of comorbidities independently prompted an open approach.
Results: We recorded no mortality, with a 19.1% overall morbidity rate, that was independently higher in anterior resection versus other type of resection (OR 1.34; 95% c.i. 1.05 to 1.70). Mean length of the procedure was 183.2 minutes, independently shorter in the laparoscopic approach without conversion. Mean length of postoperative hospital stay was 9.8 days. At multivariate analysis both laparoscopic approach ($p = 0.0037$) and absence of postoperative morbidity ($p = 0.0111$) were independently related to a shorter hospital stay. Mean length of the specimen was 27.6 cm, independently related only to the type of resection. Mean number of retrieved lymph nodes was 12.2, independently higher in the laparoscopic approach.
Conclusions: Benchmarking the learning curve of a single surgeon avoiding higher BMI and comorbid patients showed the laparoscopic approach to be safe and comparable to the results obtained in conventional open surgery.

** Presenting Author*

AN ORGANIZATIONAL MODEL TO IMPROVE THE ROBOTIC SYSTEM AMONG YOUNG SURGEONS

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Objective: Despite the worldwide acceptance of Robotic system in many different surgical specialties, high level experience surgical centers are still lacking.
Main reasons of it may be related to the high cost of this system and low interest of most surgeons still more attracted by laparoscopic approach. We aims to describe the organizational system we developed in our center in order to improve the use and efficacy of Robotic system among young surgeons.
Methods: Our center got a single robotic system that can be used any day by the general surgeon.
The department consists of 8 surgeons, 2 with experience in oncological abdominal surgery. There are not specific sub-speciality areas.
The first 65 cases were performed exclusively by the 2 experienced surgeons with three young more surgeons that joined the Robotic system one year ago.
Results: Since the first Robotic program starts in 2010, a total of 120 robotic surgical procedures have been performed.
We harvested a 5% of conversion rate with an overall morbidity of 19% and without post-operative mortality.
Conclusions: The organizational model previous described is facilitating the constant and progressive development of the Robotic system. A broad and flexible availability of the robotic system, a progressive increase of young surgeons joining this approach, the absence of sub-specialty areas has facilitated its development in our center.

ROBOTIC SPLENECTOMY: THE FIRST LEARNING STEP FOR SURGEONS APPROACHING ROBOTIC SURGERY

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Objective: Minimally invasive splenectomy has gained consensus as standard surgical procedure. The interest of robotics in performing splenectomy has been poorly reported. The video describes technical aspects of a robotic splenectomy.
Methods: A 36 years old woman was diagnosed with a suspected splenic metastasis from a skin melanoma. Preoperative assessment was performed with thoraco-abdominal CT scan and PET scan.
Results: The patient was positioned in right lateral decubitus with left arm suspended above the head. Five trocars were inserted: one right paraumbilical for the optical system, two robotic (right and left flank) and two accessory trocars (left and right flank). After laparoscopic exploration of the abdominal cavity, gastrocolic ligament was opened and short vessels were divided with ultrasonic dissector. Robotic arms were connected, the cart coming from the patient's left shoulder. Lesser sac was exposed till the anterior side of the splenic hilum and the pancreatic tail was visualized. Splenic vessels were identified above the superior border of the pancreas and sectioned between stitches and clips. The stomach and the spleen were retracted by graspers introduced through accessory trocar. The spleen was completely free by its fixity ligaments. A drain was left in place. Operating time was 180 minutes. The course was uneventful and the patient was discharged on 4th postoperative day.
Conclusions: Robotic splenectomy is a feasible alternative procedure to the standard laparoscopic approach. Its use is particularly beneficial in more challenging maneuvers such as vessels isolation and division and constitutes a testing ground for surgeon's robotic learning curve.

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* *Presenting Author*

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PELVIC LYMPH NODE DISSECTION DURING ROBOT-ASSISTED LAPAROSCOPIC TRANS-DOUGLAS RADICAL PROSTATECTOMY. LEARNING CURVE IN THE FIRST 100 CASES

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Objective: To evaluate the learning curve of an unexperienced robotic surgeon on pelvic lymph node dissection (R-PLND) during robot-assisted laparoscopic radical prostatectomy (RALP).
Methods: Starting from March 2011, we prospectively recorded the pre-, intra, and postoperative data of all patients undergoing R-PLND during RALP. The related surgical experience of the PLND surgeon was 40 open PLNDs as first surgeon and 100 robotic surgeries as bedside assistant. We divided the series in 3 groups of 33 cases in order to evaluate the learning curve.
Results: The first 99 consecutive R-PLNDs were included. Median surgical time was 90 minutes. Five patients underwent transfusions. One of them underwent embolization of a gluteal artery brench. Overall, complications were recorded in 14% of patients. Ten patients reported temporary paresthaesias; 5 patients had lymphorrea for more than 7 days; 10 patients needed to put a drain for symptomatic lymphocele, in 2 cases concomitant with deep venous thrombosis. Considering the 3 groups, we could notice no change in median surgical time (90 minutes versus 85 versus 105 – p=0,23) and in complications (12% versus 15% versus 15% p=0,12); on the contrary, the median number of lymph nodes removed significantly increased in the groups (16 versus 18 versus 20 nodes– p=0,02).
Conclusions: We reported the learning curve of a naïve robotic surgeon with limited open surgery experience. We believe that at least 60 robotic PLNDs have to be performed to remove an adequate number of nodes in a limited surgical time.

MODELS FOR TEACHING BASIC PLASTIC SURGERY TECHNIQUES DURING POSTGRADUATE SPECIALIST TRAINING

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Objective: The main goal of plastic surgical specialist postgraduate training is achieving a level of technical skill and autonomy in surgical procedures. Activity in operating rooms is accepted as traditional apprenticeship model, but this presents many restrictions as ethical and medical-legal aspects, the need to respect surgical time in operating room, continuous innovations in techniques, patients' rising expectations. Training models that use live animals and fresh human cadaver, have limitations due to the risk of infections, high costs and limited access, specialized installations and contravenes ethical legal aspects. For these reasons alternative methods spread in surgical training.
Methods: In this study, we propose a training program with inanimate bench models such as parts of ex vivo animals, human postsurgery cutaneous tissue, organic and synthetic material. Teaching model in simulation performed in dedicated surgery laboratories is distributed in several sessions with increasing difficulty, interspersed with periods of rest. Each session consists of subsequent steps: oral teaching based on textbooks, online text, and video-tutorials; practical tests supervised by instructor and self-directed training on bench models with immediate feedback from the instructor in the classroom.
Results: According to our experience, inanimated bench models are cheap, re-useable, easily available, with low risk of infection, similar to human tissue, improve performance on preoperative surgical procedures, overcoming limitations related to practice on living patients.
Conclusions: We strongly recommend the systematic use of training, on inanimate models, with dedicated teaching staff to improve surgical skills and safety in the operating rooms.

** Presenting Author*

POSTOPERATIVE CARE IN FINGERTIP REPLANTATION: OUR EXPERIENCES

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Objective: In an attempt to improve and optimize anastomotic success rates in traumatic replantation, several anticoagulation and anti-platelet regimens have been proposed. However, a unified algorithm/consensus does not exist among microsurgeons regarding type, indications, timing, and duration of medication administration for digital replantation–revascularization.
Methods: We analyzed the outcomes of fingertip replantation using a standardized postoperative protocol consisting of dextran-40, heparin, and fluid therapy for 5 days.
Results: All of the procedures were uneventful. No received blood transfusions. All patients were happy with the decision to replant, and the cosmetic result
Conclusions: To conclude, surgical technique as well as the type of injury remains the most important predictors for success in digital replantation and revascularization. Our study shows the effectiveness of our protocol, even if it is necessary to further integrate the series.

DESCENDING GENICULAR ARTERY PERFORATOR FLAP: ANATOMIC STUDY AND POTENTIAL APPLICATIONS IN THE RECONSTRUCTION OF THE LOWER LIMB

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Objective: Descending Genicular Artery Perforator Flap (DGAP) is a fasciocutaneous flap raised from the medial region of the knee and based on the saphenous branch of descending genicular artery (DGA). Originally described as a free flap, it was gradually abandoned because of its anatomical vascular variability. The aim of this study was to investigate on the vascular anatomy of this flap in order to verify the possibility of using as a local flap.
Methods: The study was developed at the Anatomy Laboratory of Bordeaux Ségalen University in January 2011. 6 fresh lower limbs, preliminary injected in the femoral artery with a radiopaque contrast solution, were dissected. We identified the origin and caliber of the DGA, the number and location of the skin perforators of saphenous artery, the length of the pedicle and the thickness of the flap. The study was completed by a radiographic examination.
Results: In all dissection, we found a DGA. Its origin was 8,03 cm (6 – 11,2cm) proximal to the knee line and the diameter 1, 86 mm (1,5 – 2,5mm). In all cases the pedicle of the flap was isolated with an average total length of 7,56 cm. In all lower limbs dissected we identified a single skin perforator of saphenous artery and the thickness of the flap elevated was 1cm on average.
Conclusions: Our study showed that the blood supply of DGAP is constant. Its use as a local flap represents an additional and valid solution for reconstruction of knee and upper leg region.

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PERFORATOR FLAPS IN LATE STAGE PRESSURE SORES TREATMENT: OUTCOME ANALYSIS OF 11-YEAR-LONG-EXPERIENCE WITH 143 PATIENTS

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Objective: In the last years perforator flaps have been introduced for the treatment of sacral, ischial and trochanteric pressure sores as an alternative option to the most popular musculocutaneous flaps. Despite the concerns regarding their reliability for pressure ulcers, particularly for their ability to provide adequate soft tissue bulk and lengthening of the operatory time, we reviewed our single-team consecutive 11-year-long experience to determine whether real advantages could be achieved by using perforator flaps as first choice in pressure sores coverage.
Methods: We analyzed 143 patients undergoing perforator flap surgery for a single late-stage pressure sore in the last 11 years. Patients with multiple late-stage ulcers were excluded from the study. All patients underwent the same protocol treatment. Data regarding associated pathologies, demographics, complications, healing and hospitalization times were collected. Finally, we analyzed data regarding recurrence rates and complications associated with different types of perforator flaps.
Results: The average age was 51.1 years. Of 143 stage 4 ulcers, 46.1% were ischial, 42.7% sacral, and 11.2% trochanteric. Of 143 perforator flaps performed, 44 were based on the superior gluteal artery perforator (S-GAP flap), 78 on the inferior gluteal artery perforator (I-GAP flap), 3 on the first medial perforator of the profunda femoris artery (PFAP-AM or adductor flap) and 18 on the first perforator of the profunda femoris artery (PFAP-1). At two years follow up, the overall recurrence was 22.4% and new ulcer occurrence was 4.2%. Mean hospital stay was 16 days with no more draining liquid after an average of 14.8 days. The overall complication percentage was 22.4%, mostly due to suture-line dehiscence (14%) and distal flap necrosis (6.3%).
Conclusions: Late stage pressure sores treatment with local perforator flaps can achieve reliable long-term outcomes in terms of recurrences and complications. When compared to previously published data, perforator flaps surgery decreased postoperative hospital stay, re-operations and new occurrences rates despite a slight increase of the incidence of distal flaps necrosis than musculocutaneous flaps, making particularly interesting the use of perforator flaps for pressure sores surgery.

SURGICAL TREATMENT OF FIBROUS DYSPLASIA

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Objective: Fibrous dysplasia (FD) is a genetic disease. The result is the replacement of the bone-bone marrow organ by a weak tissue that often causes deformities and fractures. In patients with FD, especially in the developmental age, the surgery has the purpose to prevent or to fix the fractures and to correct and stabilize the deformity.
Methods: Between 1998 and 2012, we surgically treated 41 patients with FD, 28 of which in the age of growth. The surgical treatment has been practiced in patients aged between 3 and 38.
Results: After a mean follow-up of 6 years, we have observed that all fractures and osteotomies except in one case have been consolidated forming an abundant periosteal callus. However recurrences or complications have been observed in 36% of cases. Intramedullary nailing plays an essential role in the treatment of patient with severe FD especially in children. However this technique shows several problems primarily related to the need to create a new medullary canal, the high X-ray exposition for patient and for surgeon and the elevated blood loss owing to the hyper-vascularity of both periosteum and dysplastic tissue.
Conclusions: Fractures and skeletal deformities in patients with severe FD especially in the age of growth should be surgically treated despite the high incidence of intra and postoperative complications. The best stabilization of the femur and the tibia is achieved by an interlocking nail. However, especially in children deformities tend to recur after correction and 3-5 operations might be expected until the end of growth

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FAT INJECTION FOR REMODELLING IN HYPERTROPHIC SCAR AND ATROPHIC SCAR

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Objective: Burns occur frequently in the world. New therapies based on the use of Adipose stem cells (ASC) for repair and regeneration of various tissues and organs offers today therapeutic solutions alternatives for a large number of diseases and clinical conditions. The regenerative medicine and tissue reconstruction is greatly increased interest in the adipose tissue, source of adult stem cells, called adipose-derived stem/stromal/ progenitor cells. The adipose tissue show therapeutic potential thanks to adipose stem cells (ASC). On the basis of in vitro and preclinical studies, the ASCs have been applied in various clinical fields for the regeneration of the skin especially in the outcomes of burns.
Methods: This study aimed to verify whether lipofilling could ameliorate scar remodeling in clinical cases of hypertrophic, keloids and atrophic depressed scars resulting from severe burn. The patients were treated by injection of adipose tissue harvested from abdominal subcutaneous fat and processed according to Coleman's technique.
Results: The authors present their experience in the treatment of post-burns scars in patients with three types of scars: atrophic depressed scars, painful scars, retracting hypertrofic and Keloid scars. The clinical appearance and subjective patient feelings after a 3-month follow up period suggest considerable improvement in the mimic features, skin texture, and thickness the scars.
Conclusions: The method used and the results obtained are discussed in the recent published literature. The preliminary results show that lipofilling improves scar quality and suggest a tissue regeneration enhancing process.

LIPOFILLING IN TREATMENT PRESSION ULCER

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Objective: The adipose tissue is not a simple organ specific for energy storage but is a promising source of adult stem cells, called adipose-derived stem/stromal/ progenitor cells. Adipose tissue has in stroma vascular fraction an abundance of progenitor cells some of which can differentiate into diverse lineages and have potential similar to that of bone marrow–derived mesenchymal stem cells.
Methods: The authors showed the effect of lipofilling in the treatment of ulcer (IV epuap) with no tendency to spontaneous healing in the neurologic patient with poor general conditions (Braden 15), and bone exposition of the sacral region. The flow chart provides in the first day debridement of the wound and dry lipofilling with 15 cc of adipose tissue, not centrifuged, decanted for 10 minutes and infiltrated in the perilesionale areas of ulcer (8 cm). Clinical examination and photography were performed at 1, 2 and 3 weeks. A further lipofilling at 21 days with 20 cc of adipose tissue with the same technique was performed.
Results: In the two weeks following the first lipofilling was observed:
- a progressive improvement of the ulcer with coverage sacral bone.
- A reduction in the size of 2 cm.
In the next week after the second lipofilling we observe:
-Tissue granulation.
-Reduction in the size of about 1 cm.
Conclusions: In the neurological patient with immobilization syndrome in poor general conditions (braden 15), lipofilling is a valid instrument capable of activating the process of wound healing.

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